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10/734,691

12/11/2003

Tinku Acharya

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8791

7590

06/27/2007

BLAKELY SOKOLOFF TAYLOR & ZAFMAN  
1279 OAKMEAD PARKWAY  
SUNNYVALE, CA 94085-4040

EXAMINER

PATEL, NIRAV B

ART UNIT

PAPER NUMBER

2135

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/734,691

Applicant(s)

ACHARYA ET AL.

Examiner

Nirav Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This action is in response to the application filed on 12/11/2003.
2. Claims 1-36 are under examination.

### Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 19-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 19 recites, "A machine-readable medium having stored thereon instructions, which when executed by a machine, cause the machine to perform the following operations comprising: partitioning a cover image; generating a key; inserting a watermark symbol into the cover image utilizing a Walsh transform and the key; and extracting the watermark symbol from the cover image utilizing a Walsh transform and the key". From the specification page 18 paragraph 00101, it states "When implemented in *software* or firmware, the elements of the present invention are the instructions/code segments to perform the necessary tasks. The program or code segments can be stored in a machine readable medium (e.g. a processor readable medium or a computer program product), or transmitted by a computer data signal embodied in a carrier wave, or a signal modulated by a carrier, over a transmission medium or communication link. The machine-readable medium may include any medium that can store or transfer

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information in a form readable..." Based on the cited disclosure above, it is determined that the machine-readable medium carrying a signal recites a non-statutory matter. Further, the machine-readable medium includes intangible media such as incapable of being touched or perceived absent the tangible medium through which they are conveyed. Therefore, the claim 18 recites a non-statutory subject matter.

Claims 20-27 depend on claim 19, therefore they are rejected with the same rationale applied against claim 19 above.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 5, 10, 14, 19, 20, 23, 28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed (US Patent No. 6,512,837) and in view of Rhoads et al (US Patent No. 6,614,914).

As per claim 1, Ahmed teaches:

partitioning a cover image [Fig. 1, block 102]; generating a key; inserting a watermark symbol into the cover image utilizing the key [Fig. 1, col. 2 lines 25-50]; and extracting

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the watermark symbol from the cover image utilizing and the key [Fig. 2, col. 3 lines 38-67].

Ahmed teaches watermark techniques [Fig. 1, 2]. Ahmed doesn't expressively mention a Walsh transform.

Rhoads teaches inserting/extracting watermark into/from the image utilizing a Walsh transform [col. 10 lines 24-26, Fig. 1, col. 37 lines 35-53].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Rhoads with Ahmed, since one would have been motivated to provide copy protection to the digital content/media [Rhoads, col. 2 lines 53-54, col. 5 lines 25-30].

As per claim 2, the rejection of claim 1 is incorporated and Rhoads teaches generating the key includes generating a pseudo-random number [col. 38 lines 5-7].

As per claim 5, the rejection of claim 1 is incorporated and Ahmed teaches partitioning a cover image [Fig. 1].

Rhoads teaches partitioning the cover image into non-overlapping blocks of equal size [Fig. 1, 9].

As per claim 10, it encompasses limitations that are similar to limitations of claim 1. Thus, it is rejected with the same rationale applied against claim 1 above.

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As per claim 14, the rejection of claim 10 is incorporated and it encompasses limitations that are similar to limitations of claim 5. Thus, it is rejected with the same rationale applied against claim 5 above.

As per claim 19, it encompasses limitations that are similar to limitations of claim 1. Thus, it is rejected with the same rationale applied against claim 1 above.

As per claim 20, the rejection of claim 19 is incorporated and it encompasses limitations that are similar to limitations of claim 2. Thus, it is rejected with the same rationale applied against claim 2 above.

As per claim 23, the rejection of claim 19 is incorporated and it encompasses limitations that are similar to limitations of claim 5. Thus, it is rejected with the same rationale applied against claim 5 above.

As per claim 28, it encompasses limitations that are similar to limitations of claim 1. Thus, it is rejected with the same rationale applied against claim 1 above.

As per claim 32, the rejection of claim 28 is incorporated and it encompasses limitations that are similar to limitations of claim 5. Thus, it is rejected with the same rationale applied against claim 5 above.

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5. Claims 3 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed (US Patent No. 6,512,837) in view of Rhoads et al (US Patent No. 6,614,914) and in view of Gerheim et al (US Pub. No. 2003/0026422).

As per claim 3, the rejection of claim 2 is incorporated and Rhoads teaches the key [Fig. 1].

Rhoads doesn't expressively mention a private key.

Gerheim teaches the key is a private key [Fig. 1 -- 14, paragraph 0074 lines 1-2].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Gerheim with Ahmed and Rhoads, since one would have been motivated to identify unauthorized copy of the video [Gerheim, paragraph 0001, lines 3-4].

As per claim 21, the rejection of claim 20 is incorporated and it encompasses limitations that are similar to limitations of claim 3. Thus, it is rejected with the same rationale applied against claim 3 above.

6. Claims 4, 13, 22 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed (US Patent No. 6,512,837) in view of Rhoads et al (US Patent No. 6,614,914) and in view of Vora (US Patent No. 6,463,162).

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As per claim 4, the rejection of claim 1 is incorporated and Rhoads teach the watermark symbol [Fig. 1-3].

Vora teaches the watermark symbol is a logo [col. 2 lines 58-61].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Vora with Ahmed and Rhoads, since one would have been motivated to identify or authenticate the digital content and provide the copyright protection [Vora, col. 1 lines 15-19].

As per claim 13, the rejection of claim 10 is incorporated and it encompasses limitations that are similar to limitations of claim 4. Thus, it is rejected with the same rationale applied against claim 4 above.

As per claim 22, the rejection of claim 19 is incorporated and it encompasses limitations that are similar to limitations of claim 4. Thus, it is rejected with the same rationale applied against claim 4 above.

As per claim 31, the rejection of claim 28 is incorporated and it encompasses limitations that are similar to limitations of claim 4. Thus, it is rejected with the same rationale applied against claim 4 above.



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7. Claims 6, 15, 24 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed (US Patent No. 6,512,837) in view of Rhoads et al (US Patent No. 6,614,914) and Sharma et al (US Pub. 2002/0057823).

As per claim 6, the rejection of claim 5 is incorporated and Sharma teach:

defining blocks having small variance values as homogenous blocks; and defining blocks having mid-variance values as mid-variance blocks [Fig. 2, 3, 7, paragraph 0041, 0035].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Sharma with Ahmed and Rhoads, since one would have been motivated to provide copy protection to the digital content/media [Rhoads, col. 2 lines 53-54, col. 5 lines 25-30].

As per claim 15, the rejection of claim 14 is incorporated and it encompasses limitations that are similar to limitations of claim 6. Thus, it is rejected with the same rationale applied against claim 6 above.

As per claim 24, the rejection of claim 23 is incorporated and it encompasses limitations that are similar to limitations of claim 6. Thus, it is rejected with the same rationale applied against claim 6 above.

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As per claim 33, the rejection of claim 32 is incorporated and it encompasses limitations that are similar to limitations of claim 6. Thus, it is rejected with the same rationale applied against claim 6 above.

8. Claims 7-9, 16-18, 25-27 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed (US Patent No. 6,512,837) in view of Rhoads et al (US Patent No. 6,614,914) and Sharma et al (US Pub. 2002/0057823) and in view of Hayashi (Patent No. 7,187,781).

As per claim 7, the rejection of claim 6 is incorporated and Sharma teach homogenous blocks and mid-variance blocks [Fig. 2, 3, paragraph 0035, 0041].

Hayashi teaches spatially dispersing the watermark symbol utilizing the key [Fig. 1, 2, 6].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Hayashi with Ahmed, Rhoads and Sharma, since one would have been motivated to provide copy protection to the digital content/media [Hayashi, col. 1 line 25].

As per claim 8, the rejection of claim 7 is incorporated and Rhoads teaches:

inserting the watermark symbol into the cover image utilizing a Walsh transform and the key [Fig. 1].

Hayashi teaches:

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inserting bits of the spatially dispersed watermark symbol into the homogenous and mid-variance blocks of the cover image [Fig. 6, 8, 10, col. 9 lines 5-15].

As per claim 9, the rejection of claim 8 is incorporated and Rhoads teaches:

extracting watermark symbol from the image utilizing a Walsh transform and the key [col. 10 lines 24-26, Fig. 1, col. 37 lines 35-53].

Hayashi teaches extracting bits of the spatially dispersed watermark symbol from the homogenous and mid-variance blocks of the cover image utilizing the key [Fig. 10, 13, col. 7 lines 47-53].

As per claim 16, the rejection of claim 15 is incorporated and it encompasses limitations that are similar to limitations of claim 7. Thus, it is rejected with the same rationale applied against claim 7 above.

As per claim 17, the rejection of claim 16 is incorporated and it encompasses limitations that are similar to limitations of claim 8. Thus, it is rejected with the same rationale applied against claim 8 above.

As per claim 18, the rejection of claim 17 is incorporated and it encompasses limitations that are similar to limitations of claim 9. Thus, it is rejected with the same rationale applied against claim 9 above.

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As per claim 25, the rejection of claim 24 is incorporated and it encompasses limitations that are similar to limitations of claim 7. Thus, it is rejected with the same rationale applied against claim 7 above.

As per claim 26, the rejection of claim 25 is incorporated and it encompasses limitations that are similar to limitations of claim 8. Thus, it is rejected with the same rationale applied against claim 8 above.

As per claim 27, the rejection of claim 26 is incorporated and it encompasses limitations that are similar to limitations of claim 9. Thus, it is rejected with the same rationale applied against claim 9 above.

As per claim 34, the rejection of claim 33 is incorporated and it encompasses limitations that are similar to limitations of claim 7. Thus, it is rejected with the same rationale applied against claim 7 above.

As per claim 35, the rejection of claim 34 is incorporated and it encompasses limitations that are similar to limitations of claim 8. Thus, it is rejected with the same rationale applied against claim 8 above.

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As per claim 36, the rejection of claim 35 is incorporated and it encompasses limitations that are similar to limitations of claim 9. Thus, it is rejected with the same rationale applied against claim 9 above.

9. Claims 11 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed (US Patent No. 6,512,837) in view of Rhoads et al (US Patent No. 6,614,914) and in view of De Lanauze et al (US Pub No. 2003/0140232).

As per claim 11, the rejection of claim 10 is incorporated and Rhoads teaches generating the key includes generating a pseudo-random number [col. 38 lines 5-7].

De Lanauze teaches the pseudo-random number utilizing a shift-register circuit [paragraph 0005 lines 7-9]

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine De Lanauze with Ahmed and Rhoads, since one would have been motivated to provide copy protection to the digital content/media [Rhoads, col. 2 lines 53-54, col. 5 lines 25-30].

As per claim 29, the rejection of claim 28 is incorporated and it encompasses limitations that are similar to limitations of claim 11. Thus, it is rejected with the same rationale applied against claim 11 above.

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10. Claims 12, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed (US Patent No. 6,512,837) in view of Rhoads et al (US Patent No. 6,614,914) in view of De Lanauze et al (US Pub No. 2003/0140232) and in view of Gerheim et al (US Pub. No. 2003/0026422).

As per claim 12, the rejection of claim 11 is incorporated and Rhoads teaches the key [Fig. 1].

Rhoads doesn't expressively mention a private key.

Gerheim teaches the key is a private key [Fig. 1 -- 14, paragraph 0074 lines 1-2].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Gerheim with Ahmed, Rhoads and De Lanauze, since one would have been motivated to identify unauthorized copy of the video [Gerheim, paragraph 0001, lines 3-4].

As per claim 30, the rejection of claim 29 is incorporated and it encompasses limitations that are similar to limitations of claim 12. Thus, it is rejected with the same rationale applied against claim 12 above.

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### Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (See form 892).

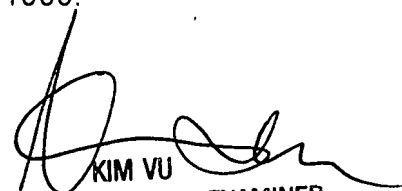
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav Patel whose telephone number is 571-272-5936. The examiner can normally be reached on 8 am - 4:30 pm (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*NBP*

6/21/07

  
KIM VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100